The Builder.

No. CCCCLX.

SATURDAY, NOVEMBER 29, 1851.

AUTUMN usually brings other falls besides the "fall of the leaf." We have before us the particulars from various quarters of chimney-breasts that have split, party-walls that have slipped or sunk, and houses that have doubled up just as the roof was being put on. Nor will any one be surprised to hear of these occurrences whose attention is given to the proceedings of speculative builders, in the suburbs of London especially. We were going to call them *accidents*, but the expression would not be correct. Accidents are explained as "chances;" accidental, as a "quality non-essential;" whereas, in truth, with many of the buildings to which we are alluding, that they stand is the accident, instability is a quality not separable from their constitution. In many cases, the bricks are bad, the mortar is bad, the work is bad, and the disposition of the supports is bad: what keeps them together until the work sets can scarcely be pointed out, and the fact that falls only occur occasionally (much oftener, though, than some think, because, unless life be lost, they seldom come before the public), serves to show what may be done with good materials properly placed. Of course, there are many exceptions, and those builders who do their work well, and strive to produce houses not merely to sell but to last, are the witnesses we would call to prove the extent to which rubbish such as we have pointed to is prepared for the market.

The removal of the brick duties has not yet produced that improvement in the make of bricks which we ought to find: large quantities of the worst description are at this time being sold at prices for which a good material ought to be provided. The Great Exhibition shewed, what every one knew, that bricks of the most admirable quality, bricks far exceeding stone in hardness and durability, could be obtained in various parts of the kingdom; but as bad bricks can be obtained for less than good bricks, so long as houses built of the former will sell as readily as if the better had been used, especially if bedizened with a little compo, the knowledge is of very little use, and builders for the market will continue in their present course. It would be useful to inquire into the circumstances which enable M. Miesbach to produce in Austria the singularly fine bricks exhibited by him in Hyde-park, at the very low price which was mentioned for them. We must repeat the expression of our disappointment that so little advantage has yet been taken of the free course for industry now open in brick-making. Processes should be sought to cheapen and improve, and no bad bricks should be allowed to leave the field. Such a regulation as this would soon get a maker a reputation and a fortune. There is nothing that a good brick is not capable of: if we may laugh on our road, we would say that the multitude, when they term the best of fellows "a regular brick," show an appreciation of this fact. There are some bricks that will bear anything, and that too without a wince,—look, for example, at the lower courses of some of our monstrous chimney-shafts, higher than St. Paul's,—while others yield unconditionally to a shower of rain. To put a less extreme case: we tried one morning the bricks that were being used in two neighbouring buildings, one resisted uninjured fifty tons, the other was crushed by three!

It is a common practice with "cutting" builders to compound the mortar with the earth dug out of the foundations, in lieu of sand. The surveyor for the ground landlord, should he employ one, may beg that this be discontinued, may swear, may threaten that he will withhold his certificate for a lease; often wholly in vain, the builder trusting to the good nature of the ground landlord, the desire of the solicitor of the estate to issue leases, or unwillingness on the part of the surveyor, when the house is up (and has not tumbled down), to punish him with what would in many cases be ruin.

We have in our own practice wrongly yielded often enough, and permitted leases to be granted where intreaties have been in vain, and the houses insufficiently built. But in two or three cases we have been forced by considerations of duty to refuse a lease, and the result has necessarily been very serious. We should be glad if the mention of this led some to reflect upon the matter, and spare us and others the necessity of a similar step.

The opinion seems to be general amongst the bricklayers employed on the class of houses to which we are alluding, that headers are quite unnecessary; that if the walls be built of whole bricks and bats to look like headers and stretchers, any tie between the outer face of the wall and the inner is quite uncalled for. We have several houses in our mind at this moment where the facing of the walls being a better sort of brick, is, from bottom to top, simply tied to the inner part of the wall by headers 4 feet apart every way: The men know better, spite of all that has been done to destroy the race of skilled bricklayers: they know perfectly well that the wall is unsound, but if they are not building for themselves, in which case desire to save leads them to the evil, they are forced by the instructions of their employer to act as they do.

Add to what we have been pointing to, imperfect foundations, sham arches, pockets in the chimney-breasts filled with rubble, the absence of even timber bond (bad in the long run, but useful in the first instance when hoop iron and cement are not used, as they should be), and our readers will agree with us that the *accident* happens when a house so built *stands*.

For much of this, house-buyers are to blame: they look at the outside with eyes that see not, found their calculations on the rent which by some means or other has been obtained for the frail tenement for which they are in treaty, and discover too late that they have bought a constant source of expense and annoyance. If in all cases an architect or other competent person were called in previously to the purchase, to examine the house, the buyer might be spared this loss, the honest and able builder would be protected, and those who have practised the "cutting" system would find it necessary to mend their ways and build better.

MINERAL PRODUCTS RELATING TO THE BUILDING ARTS IN CLASS 1. OF THE GREAT EXHIBITION.*

OOLITES.

No. 29 contained several specimens from the great or Bath oolite of Combe Down near Bath, Corsham Down between Bath and Chippenham, and from the Box tunnel near Bath. The Combe Down stone, in the commissioners' report, is set down as weighing 116 lbs.—but Mr. Howard, the exhibitor, gives the weight at 125 lbs.—per cube foot. Besides its use as ashlar in the works of the Kennet and Avon canal, in the Somerset coal canal, restoration of Henry the Seventh's Chapel, Westminster Abbey, and many other works, this stone is extensively used for ridges and troughs. This stone by means of the Great Western Railway ought to be supplied in London for about 1s. per cubic foot. The specimens from Box and Corsham weigh about 122 lbs. per cubic foot, and have been used in Laycock Abbey, Longleat, Bowood, south front of Wilton House, Windsor Castle, &c. These, and all the stones from the neighbourhood, ought to be supplied in London for something less than the Combe Down stone, the price of scabbled blocks at the quarries being only 6d. or 7d. per cubic foot. Besides these there are several specimens from Pickwick and the north end of the Box tunnel, one of which is described as "a good weather stone," and the weight of different specimens is said to vary from 124 lbs. to 140 lbs. The Box stone contains 94½ per cent. of carbonate of lime, and the disintegration is considerable, being equal to one grain in 377.

No. 29 also contained a specimen from the lower oolite of Dundry, a remarkable hill of lias in the neighbourhood of Bristol, capped by a patch of lower oolite. The Dundry stone is not so light a cream colour as the stones which have been described from the middle oolite; nor is the grain so fine: its weight is 135½ lbs. This stone was used in the construction of Bristol Cathedral and the splendid pile of St. Mary, Redcliff.†

Nos. 181 and 193 both contained specimens of stone from the lower oolite of Ham-hill, Yeovil. This stone is not so light-coloured as those from the neighbourhood of Bath, and may be described in the words of the commissioners as a light ferruginous brown: used very extensively throughout the neighbourhood: weight 141 lbs. 12 oz. per cubic foot. Its composition varies considerably from that of the other oolites, principally by containing silex and an admixture of carbonate of magnesia and iron alumina. The analysis is as follows: silica, 4·7; carbonate of lime, 79·3; carbonate of magnesia, 5·2; iron alumina, 5·3; water and loss, 2·5; bitumen, *a trace*. The disintegration nearly as great as in the Bath stone, being 1 grain in 500.

No. 193 and No. 160 had also specimens from Monkton Farleigh Down, the great oolite near Bath. It was used in parts of Buckingham Palace, in Hoare's Banking House, and in building St. James-square, Bath.

No. 193 further contained specimens from the great oolite of Langton Herring, near Weymouth, and from the lower oolite of Doulting, near Wells, Beaminster, Crewkerne, and Bothenhampton, near Bridport, the latter of which is also used for paving-stone. Neither of these stones is in great repute except that of Doulting, which was used in all the surrounding churches, and in Wells Cathedral, the quarry from which the stone was procured still bearing the name of St. Andrew, to whom the cathedral is dedicated.

The oolite of Tisbury, Wilts, is remarkable for a bed of flint, which presents beautiful sections of madrepores belonging to the *genus astrea*, the hexagonal sections of which appear wherever the stone is cut and polished. The hexagonal cells also appear on the rough, undisturbed exterior of the flint stones, the centre of each cell being hollowed out as in a recent sponge.

* See p. 718, *ante*.

† An account of the quarry appeared in our pages some time since.

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